



## **SAFETYGRAM**

November 2015

The more things change, the more some things stay the same. Despite alarming stories about global warming, it still seems to start getting cold in November. Even though winter doesn't begin officially until December 21st, winter weather conditions start to appear. We might even get frost in Texas by the end of the month. Before the biting cold and blustery cold fronts really set in seems to be the best time to mentally prepare for them...I love flying in the winter, but there are a few extra things to think about. As temperatures begin dropping, it's time to review mitigation strategies for cold weather operations.

### **“Dress to Egress:”**

Step one starts before you leave your home. Dress for the weather and the terrain you will be flying over. Even if you don't wear it all, bring survival items like hats, gloves, and boots. I always try to wear clothes that I'll be thankful for if the heater fails in flight (since I've had it happen). At home is also the time to ensure you have a fully charged cell phone, a working flashlight, a personal survival kit, and maybe even a PLB. Here are a few suggested essential items for a personal survival kit: a signaling mirror, space blankets, fire starter/tinder (water proof), a few non-perishable snacks, and basic first aid supplies. It doesn't have to be elaborate or expensive, but putting a little thought into a personal survival kit can pay huge dividends if you really need it. Besides, the thought of actually having to use a winter survival kit seems to help me gauge acceptable risk a little more clearly...

### **Carbon Monoxide:**

Speaking of aircraft heaters, they're awesome on a cold winter flight. But always remember, carbon monoxide (CO) is deadly. Review heater operation and carbon monoxide poisoning signs/symptoms/treatment in advance. Visual (“black dot”) CO detectors are inexpensive (less than \$10) and provide CO detection that's priceless. I've seen folks that just wear one of these on a lanyard so it's completely portable and easy for them to see.

### **Preflight:**

Once you get to your airplane, do a thorough preflight; check tire pressure and strut extension, preheat the engine(s) if temperatures dictate. If the aircraft is equipped with wheel pants check for and remove any frozen slush or ice (strongly consider removing wheel pants entirely for the winter season). Ensure ALL surface ice and snow is removed. We all know that ice, snow or frost accumulations increase drag and rob an aircraft of critical lift. According to ASI, accumulations not thicker or rougher than coarse sandpaper on the leading edge and upper surface of a wing can reduce lift by as much as 30% and increase drag by as much as 40%. A good preflight inspection is critical. **Don't attempt to take an aircraft that has ANY ice, snow or frost covering it into the air.** The windows need to be clear as well (so you can see!), but remember that Plexiglas will scratch badly if you attempt to use an automotive ice scraper meant for regular glass. Also double check places like the spinner, flaps, control surfaces, static

ports, and wheels/brakes. Don't forget about the hazards of frozen water in the fuel tanks! Further, you should always check any of the equipment you might need in flight (pitot heat for example – but be careful not to burn yourself!).

### **Engines:**

Starting the engine requires some extra care. Batteries don't like the cold; minimize battery usage before start as much as possible. Be aware if you need to crank the engine more than once, you may not have the juice you normally have for subsequent attempts. Keep engine RPM down at the recommended idle after start because the oil is thick and won't be lubricating correctly until it warms up. Finally, don't take off until you get that oil temp in the green (checklists mandate this for a reason!).

### **Taxi/Take off/Landing:**

While on the ground use extra caution - avoid snow mounds, puddles and slush. It's not rocket science, but remember that ice is slippery; ice can rapidly cause loss of control! If you must taxi through any kind of water or slush use a slow speed and retract flaps on low-wing aircraft to ensure snow and slush don't accumulate in the flap openings or cause damage to the flaps. Obviously, review and comply with your club's established RCR criteria for winter ops. Finally, if the runway isn't completely clear/dry, consider (in advance) exactly how that will affect your aircraft and take the appropriate mitigating actions.

Blue skies and fair winds!

### **Links:**

AOPA Accident Case Study:

<http://www.aopa.org/AOPA-Live.aspx?CMP=ADV:4&watch=9CC22A1C-9960-43A5-AC03-3757498BE36C>

Cold Weather Operations:

<http://www.aopa.org/Pilot-Resources/Safety-and-Technique/Weather/Cold-Weather-Operations>

Icing and Cold Weather Ops:

<http://www.aopa.org/Pilot-Resources/Air-Safety-Institute/Safety-Spotlights/Icing-and-Cold-Weather-Ops>

ASI Cold Weather Webinar:

[http://www.aopa.org/Education/Webinars/Cold-Weather-Ops.aspx#oid=J4bXIIImzpk311OQoXIHbUPri92\\_K2EAY](http://www.aopa.org/Education/Webinars/Cold-Weather-Ops.aspx#oid=J4bXIIImzpk311OQoXIHbUPri92_K2EAY)

**FLY SAFELY!**



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